

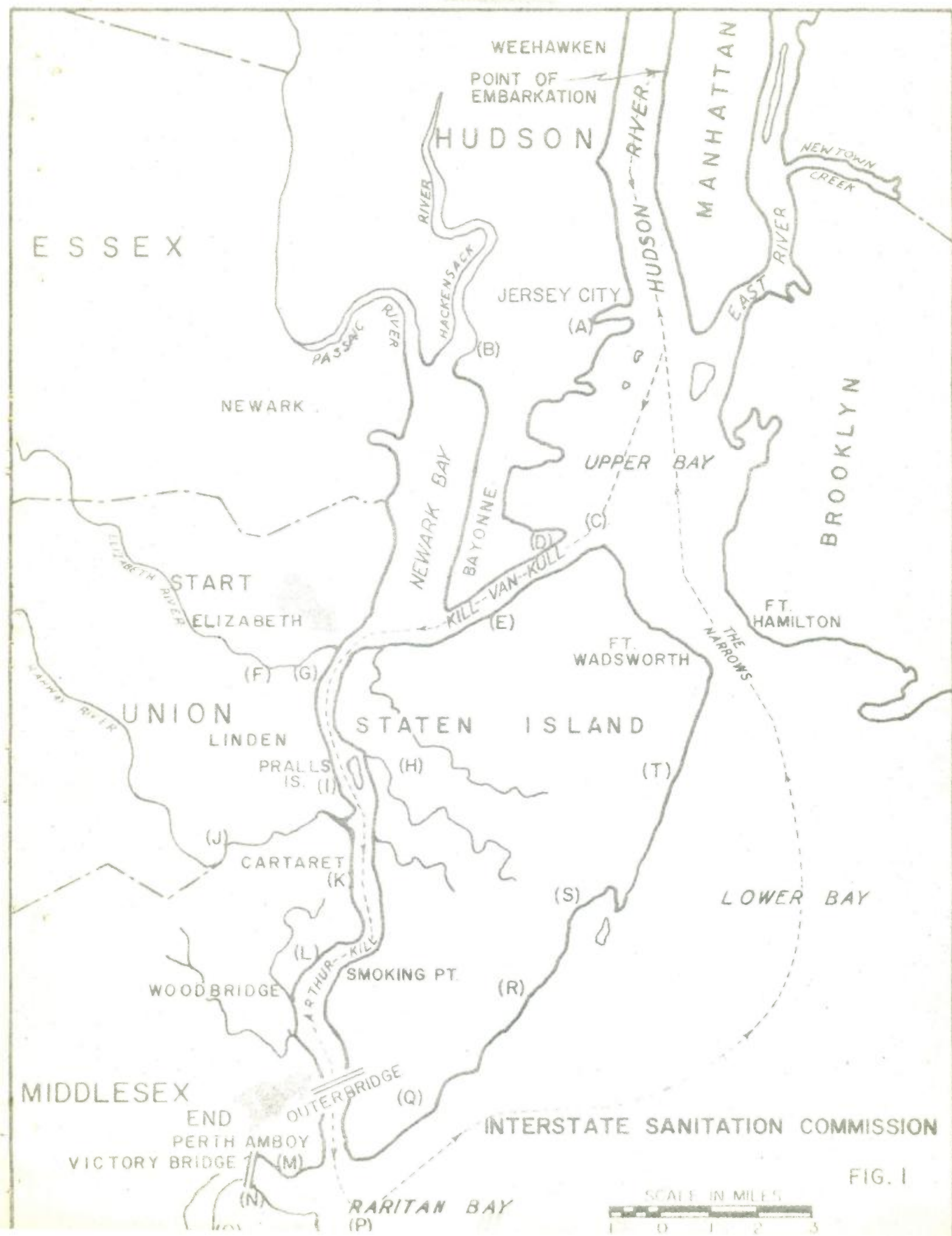
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INTERSTATE SANITATION COMMISSION

10 COLUMBUS CIRCLE ● NEW YORK 19, N. Y.

LOCATION OF CITY SEWERS
Adjacent to
INDUSTRIAL PLANTS
Bordering
ARTHUR KILL IN NEW JERSEY

LOCATION OF CITY SEWERS
Adjacent To
INDUSTRIAL PLANTS
Bordering
ARTHUR KILL IN NEW JERSEY



January 5, 1965

MEMORANDUM

TO: G. T. Cowherd, Jr.

FROM: F. W. Gross

Re: Location of City sewer lines with relation to industrial plant sites in the area adjacent to the Arthur Kill on New Jersey shore.

A comprehensive study was conducted by the Interstate Sanitation Commission during the fall of 1964 to obtain certain information as to the exact locations of city sewers, their approximate size and the approximate volume of flow now being handled by these respective sewer lines. Emphasis was given to those sewer lines which are located in the immediate area adjacent to industrial plants which border on the New Jersey side of the Arthur Kill. The area inspected started at the north end of the Arthur Kill at the junction of Newark Bay and Elizabethport Reach and continuing south to Perth Amboy as indicated on map (Fig. 1). In order to facilitate this study sewer maps were obtained from the various municipalities. A few of these maps were accurate and up-to-date but unfortunately the greater part were old prints not showing new sewer lines or laterals. In instances like this, the inspector had to make various trips in the field to locate sewer lines by observing manholes in the adjacent city streets and making observations of size and estimated flows from the street level.

The following municipalities with industrial plants located within their jurisdiction and known to be discharging their waste material directly to the Arthur Kill were inspected. An individual report on each plant is included in this report.

UNION COUNTY

<u>Plant</u>	<u>City or Borough</u>
1. Archer-Daniels-Midland	Elizabeth, N.J.
2. Borme Chemical	" "
3. Copper Pigment Chemical Works	" "
4. Phelps Dodge Company	" "
5. Reichhold Chemical Company	" "
6. Singer Company	" "
7. Cities Service Company	Linden, N.J.
8. E. I. DuPont De Nemours & Company	" "
9. Nopco Chemical Company	" "

MIDDLESEX COUNTY

<u>Plant</u>	<u>City or Borough</u>
1. Agrico Chemical Company	Carteret, N.J.
2. American Smelting & Refining Company	Barber, Perth Amboy, N.J.
3. Armour Fertilizer Company	Carteret, N.J.
4. California Oil Company	Perth Amboy, N.J.
5. Foster Wheeler Company	Carteret, N.J.
6. Hess Oil Company	Port Reading, N.J.

MIDDLESEX COUNTY continued

- | | |
|---------------------------------------|--------------------|
| 7. Koppers Chemical Company | Port Reading, N.J. |
| 8. Koppers Company (Creosoting Plant) | Port Reading, N.J. |
| 9. U. S. Metals & Refining Company | Carteret, N.J. |
| 10. Westvaco Company (Food Machinery) | Carteret, N.J. |
| 11. General American Tank & Star. Co. | Carteret, N.J. |

UNION COUNTY

1. Archer-Daniels-Midland	Elizabeth
2. Borme Chemical Co.	Elizabeth
3. Cities Service Co.	Linden
4. Copper Pigment Chemical Works	Elizabeth
5. E.I. Du Pont De Nemours & Co.	Linden
6. Nopco Chemical Co.	Linden
7. Phelps Dodge Co.	Elizabeth
8. Reichhold Chemical Co.	Elizabeth
9. Singer Co.	Elizabeth

PLANT: Archer-Daniels-Midland Company

LOCATION: East side of Front Street, approximately .05 miles north of Clifton Street, Elizabeth, N.J.

Directly in front of this plant on Front Street, the City of Elizabeth has a 12" non-intercepted combined sewer which flows north where it is connected to a 24" combined sewer. At present, this sewer discharges directly to the Arthur Kill at a point approximately 250 feet north of the southerly property line of Loizeaux Builders Supply Company. While this city sewer discharges raw sewage to the Arthur Kill, plans are being prepared by the City of Elizabeth to have this area's sewage diverted to the Elizabeth Joint Meeting Treatment Plant. At low water, a small flow can be observed discharging to the Kill, which indicates that the 12" and 24" combined sewers have ample capacity to serve this plant. This plant is reported to utilize approximately 100,000 gpd. of city water and 240,000 gpd of Arthur Kill water.

1/7/65
FG:k



ARCHER DANIELS
PLANT

STATEN
ISLAND

STATEN
ISLAND

ARTHUR KILL SURVEY
SAMPLING STATIONS



INTERSTATE SANITATION COMMISSION
NEW YORK NEW JERSEY CONNECTICUT
1957



ELIZABETH RIVER

ST.

50 FIRST ST.



8" Sanitary

FRONT



8" Sanitary

SOUTH

12" IN 7.5" X 6" 50' P. FRONT TRUNK SEWER

24" Combined Sewer

12" COMBINED SEWER

NEW LOCATION OF SEWER LINE

CLIFTON ST

ARCHER-DANIELS-MIDLAND

APPROXIMATE

WATER

FRONT

SECTION 0-9 SHEET 41
7-64

ELIZABETH SEWERAGE PLANS

Proposed Street

SEWERS NOT INTERFERED

Proposed Sewer

Discharges to Ar. Kill
approx 250' N. of South
property line of Loizcaux
Builders Supply Co.

ABANDONED - APPROX 17"

29" Combined Sewer

12" COMBINED SEWER

SOUTH

FRONT

ST.

8" Sanitary

5" Sanitary

Sanitary

IT IS NOT TO BE THIN SEWER

PLANT: Borme Chemical Company, Inc.

LOCATION: 632-650 Front Street, Elizabeth, N.J.
East side of Front Street and approximately
.2 miles south of Clifton Street.

Starting at a point approximately 125 ft. to the south of the southerly property line of this plant, a 12" non-intercepted combined sewer starts to flow north along Front Street. Plans are being prepared by the City of Elizabeth to construct a new 8" sanitary sewer on Bayway Avenue which will be diverted to this 12" sewer main. The tentative plans call for the sewage in this sewer to be intercepted and diverted to the Elizabeth Joint Meeting Treatment Plant.

1/7/65
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SOUTH FROM

12" Combined Sewer

FORNE CHEMICAL

BAYWAY TERMINAL CORP

BAYWAY

WATER

8" Sanitary

8" Sanitary

72" Brick

36" Pipe

SOUTH FRONT

ST.

12" Combined

BORNE CHEMICAL CO. INC.

Baltimore & Ohio

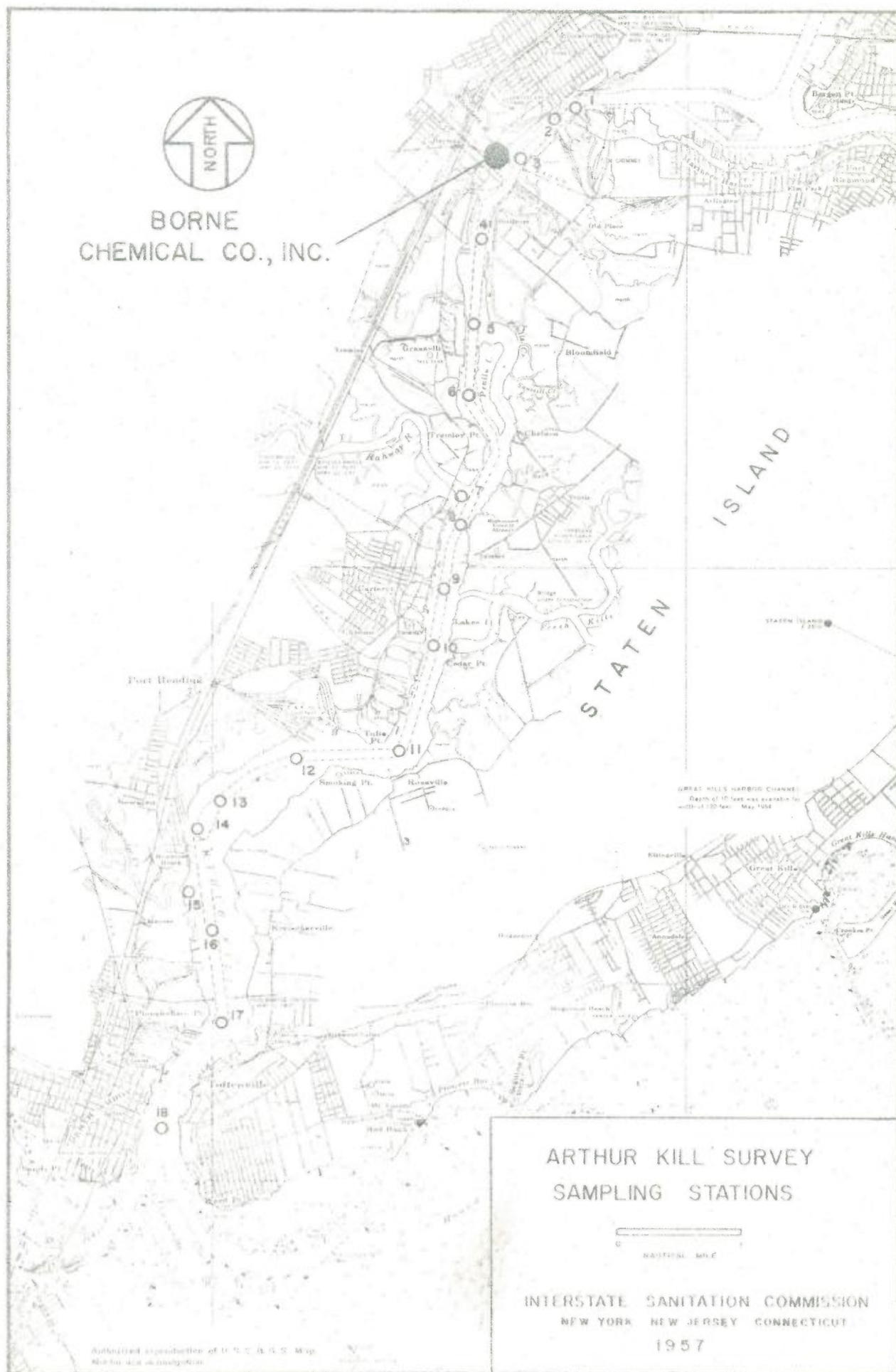
FRONT

Proposed Sewers

Sewers Not Intercepted



BORNE
CHEMICAL CO., INC.



ARTHUR KILL SURVEY
SAMPLING STATIONS



INTERSTATE SANITATION COMMISSION
NEW YORK NEW JERSEY CONNECTICUT
1957

PLANT: Cities Service Oil Company

LOCATION: East Side of South Wood Ave., Linden, N.J.

The main processing plant for Cities Service is located near the end of and on the east side of South Wood Ave. On the west side of South Wood Ave. a large tank storage field is located. This section of Linden does not have any City sewer mains which means that the waste from this plant would have to be pumped approximately 5600 ft. to the nearest City sewer. Our recent Industrial Waste Survey indicates that the discharge from the A.P.I. separator is approximately 7.2 mgd.

1/7/65
FG:fd



Cities Service
Oil Co.

ISLAND

STATEN

ARTHUR KILL SURVEY SAMPLING STATIONS



INTERSTATE SANITATION COMMISSION
NEW YORK NEW JERSEY CONNECTICUT
1957

Adapted from map of N. Y. S. & N. J. Map
Not for use in navigation

6-9 X 7

47-18-8

PLANT: Copper Pigment Chemical Works, Inc.

LOCATION: Bayway Ave., Elizabeth, N.J.
North side of Bayway Ave. bordered by
Replaced Bayway Ave., Bayway Ave. and
the N.J. Turnpike.

Located to the south of this plant on Bayway Ave. an old 66" brick non-intercepted sewer flows easterly to a 72" brick sewer which terminates at the foot of Bayway Ave. at the Arthur Kill. At present this plant discharges approximately 2000 gpd of filter wash water from their processing units. The discharge is to an open ditch which runs to the north side of their property. This discharge is trapped in this ditch due to the high embankment which forms the roadbed for Replaced Bayway Ave. All sanitary waste from this plant is connected to the 66" sewer on Bayway Ave. With very little effort the industrial waste discharge could be diverted to the Bayway Ave. sewer line. The final disposal of this waste depends on evaporation and ground absorption. Plans which are being prepared by the City of Elizabeth call for the construction of a new 8" intercepted sewer line which will divert all the flow to the Elizabeth Joint Meeting Treatment Plant.

1/7/65
FG:fd

Central Railroad of New Jersey

RELOCATED BAYWAY

Open Ditch

MARSHLAND

200' E.D.

CHEMICAL

CORDEX PIGMENT INC.

B & O R.R.

BAYWAY

BURLINGTON AVE

8" Sanitary

Proposed Sewer

Proposed Street

Sewer Not Intercepted

113

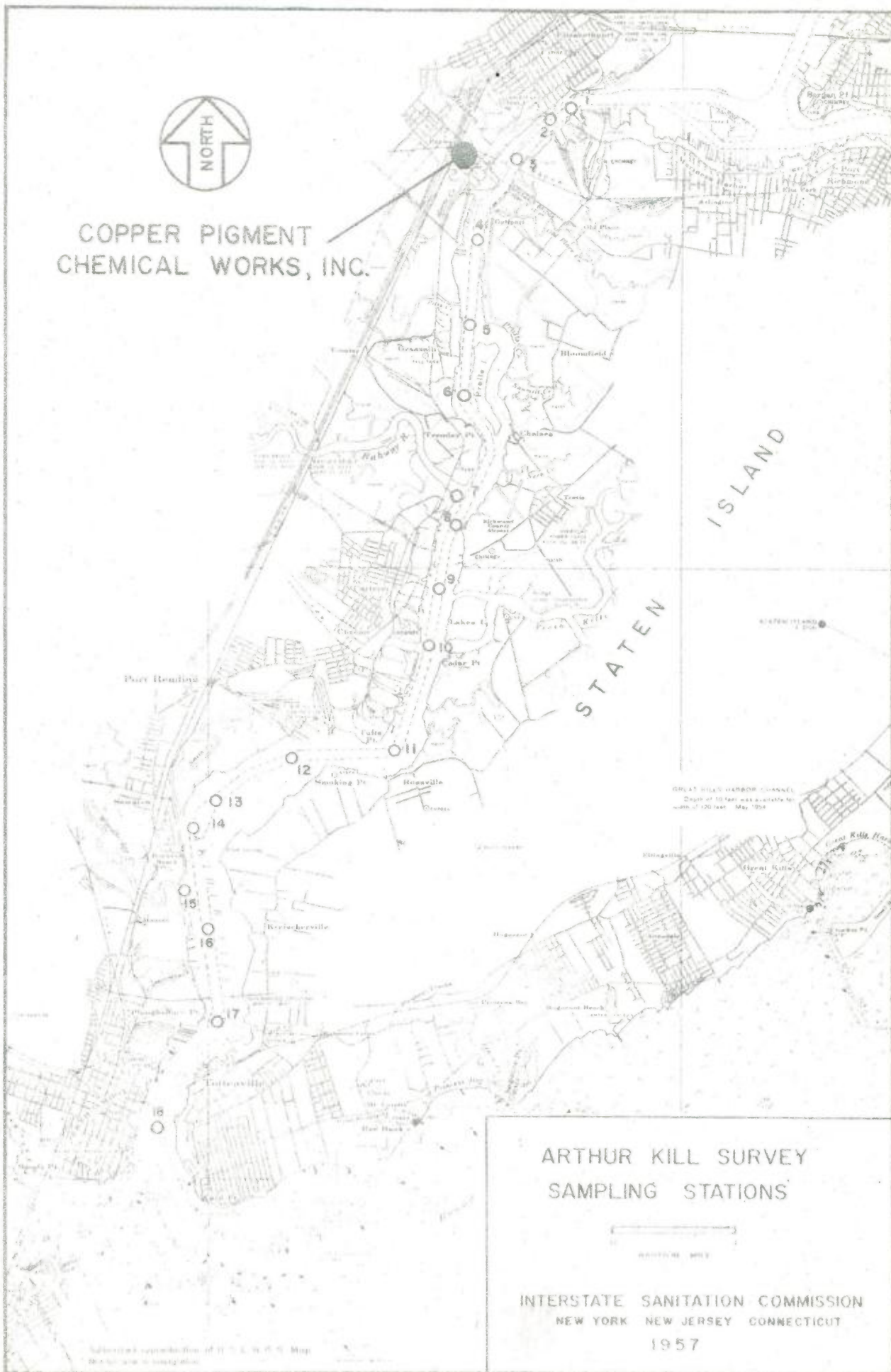
65' SW 1/4

134

17-64



COPPER PIGMENT
CHEMICAL WORKS, INC.



ARTHUR KILL SURVEY
SAMPLING STATIONS

INTERSTATE SANITATION COMMISSION
NEW YORK NEW JERSEY CONNECTICUT
1957

Subtract reproduction of U.S. & N.Y.S. Map
Design and investigation

PLANT: E.I. Du Pont De Nemours & Co.

LOCATION: North off the Grasselli Station Road, Linden, N.J.

This plant which is located adjacent to the Arthur Kill in the Grasselli Station section of Linden, N.J. has no available City sewers. Due to the absence of a City sewer in this area it would be necessary to pump the waste approximately 4800 ft. to the nearest sewer main. Our Industrial Waste Survey indicates that through their 7 outfall pipes and several outlets from septic tanks an approximate 6.4 mgd discharges directly to the Arthur Kill.

1/7/65
FG:fd



Du Pont Company
Linden, N.J.



ARTHUR KILL SURVEY SAMPLING STATIONS



INTERSTATE SANITATION COMMISSION
NEW YORK NEW JERSEY CONNECTICUT
1957

PLANT: Nopco Chemical Company

LOCATION: Near the end of South Wood Ave., Linden, N.J.

This plant which is situated between General Aniline Co. and Sinclair Oil properties on the easterly side of South Wood Ave., Linden, N.J. is in an area which has no available City sewers. In order for the industrial waste discharge from this plant to be diverted to a City sewer the waste would have to be pumped approximately 4400 ft. to the nearest sewer line. Since our Industrial Waste Survey, Nopco has vacated the premises and the buildings are now vacant.

1/7/65
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NOPCO CHEMICAL CO.
LINDEN, N.J.

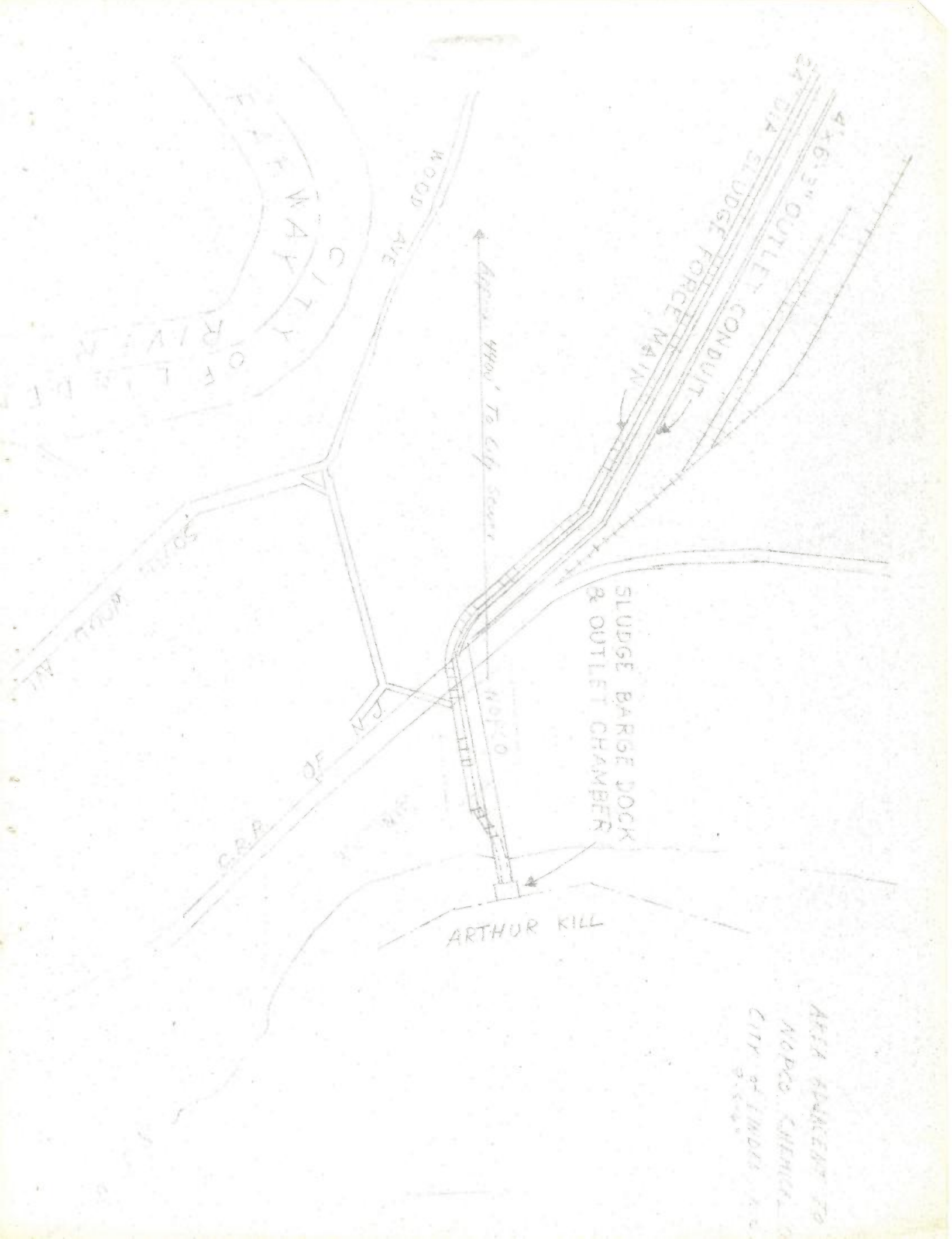


ARTHUR KILL SURVEY
SAMPLING STATIONS

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NAUTICAL MILE

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NEW YORK NEW JERSEY CONNECTICUT
1957

Authorized reproduction of U.S.C. & G.S. Map
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PLANT: Phelps Dodge Copper Products Corp.

LOCATION: Bayway, Elizabeth, N.J.

The numerous buildings which are operated by Phelps Dodge Copper Products Corp. are bordered on the north by Bayway Avenue, on the east by the Arthur Kill, on the south by the city line of Elizabeth and on the west by Amboy Avenue. This compound of buildings is divided by South Front Street and Myrtle Street which are improved city streets. Running in a northerly direction on Amboy Avenue from Myrtle to Bayway Avenue is a 12" sewer that discharges to the 72" brick sewer on Bayway Avenue. This sewer at present is not intercepted and discharges directly to the Arthur Kill at the foot of Bayway Avenue. The City of Elizabeth has plans for construction of a proposed 8" sanitary sewer on South Front Street and Bayway Avenue which will be intercepted and the entire flow diverted to the Elizabeth Joint Meeting Treatment Plant. Our Joint Industrial Waste Survey indicates that approximately 350,000 gpd of city water and 1.3 mgd of Arthur Kill water is used daily by this plant and is discharged directly to the Arthur Kill.

1/7/65

FG:k

BRICK

03

03

1.6

17.8

8" Sanitary

12" Tile

ANDBOX AVE.

ANDBOX

12" Tile

PHELPS DODGE COPPER
PRODUCTS CORP.

8" Proposed Sewer To
connect with 12" Combined
Sewer located 150' N. of
Bayway intersection on
So. Front St.

FRONT ST.

MYRTLE ST.

R.D.

CARRINGER

ALLEN ST.

SOUTH

NEW CITY LINE

Proposed Sewers
Sewers Not Intercepted

FIELDS, MIDGE COPPER PRODUCTS CO.

FRONT ST.

SOUTH

So. Front St.

8' Sanitary

Sanitary

72' 5" 11' 8"

36' 17' 9"

11' 8"

PLANT: Reichhold Chemicals, Inc.

LOCATION: 726 Rockefeller Street, Elizabeth, N.J.

This plant is located in both the City of Elizabeth and the City of Linden, N.J. All buildings in this group are bordered on the North by Bayway Ave., on the East by Amboy Ave. and on the West by the Central Railroad of N.J. tracks in the City of Elizabeth. That section which is in the City of Linden has as its southerly perimeter a leg of Morses Creek. On Rockefeller St. which was a city street but now privately owned by Reichhold has a 15" and 8" City owned sewer which starts at the City Line of Elizabeth and runs northerly to Bayway Ave. where it connects with the 72" brick non-intercepted Bayway Ave. sewer whose outfall terminus is at the Arthur Kill. The 12" City sewer located on Amboy Ave., an improved City St. and the 72" brick sewer on Bayway Ave. can also be used for the collection of all of the waste discharges which now go directly to the small leg of Morses Creek. Plans are being prepared by the City of Elizabeth to construct a new 8" sewer in this area which will divert all the flow to the Elizabeth Joint Meeting Treatment Plant. At present our records indicate that approximately 465,000 gpd and 225,000 gpd discharge to Morses Creek.

1/7/65
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REICHOLD
PLANT

ISLAND

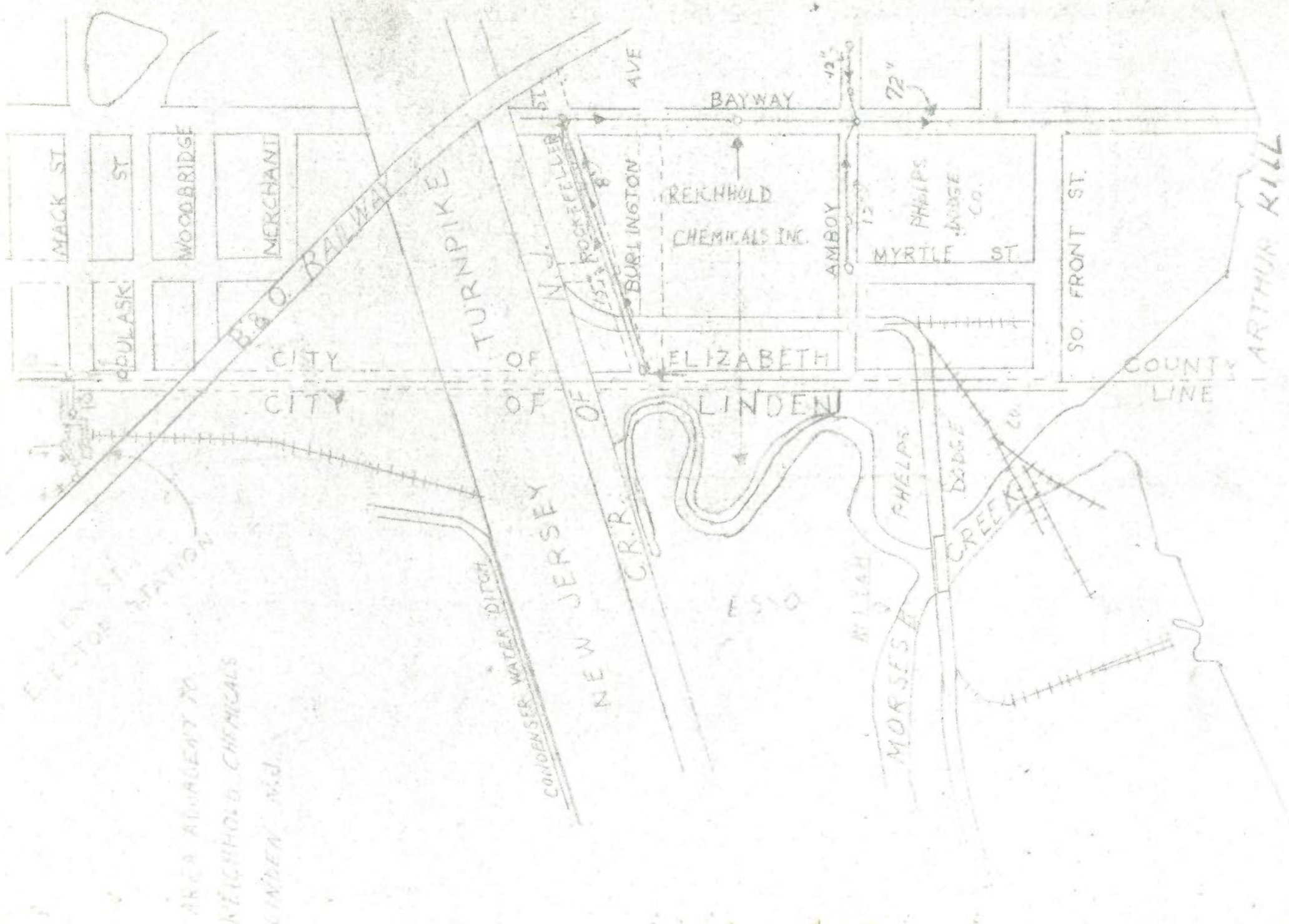
STATEN

ARTHUR KILL SURVEY
SAMPLING STATIONS



INTERSTATE SANITATION COMMISSION
NEW YORK NEW JERSEY CONNECTICUT
1957

Authorized reproduction of U.S.C.R.C.S. Map
Not for use in interpretation



AREA ADJACENT TO
REICHOLD CHEMICALS
LINDEN, N.J.

PLANT: Singer Company

LOCATION: Foot of Trumbull St., Elizabeth, N.J.

All buildings of this corporation are located in the City of Elizabeth and border on the north side of Trumbull Street and on the east side of First Street between Port Avenue and Trumbull Street. The six outfalls which now discharge directly to the Arthur Kill could be intercepted and by using a lift station the flow could be pumped directly to the 54" interceptor which crosses the parking field east of First Street and flows to the Elizabeth Joint Meeting Plant. This problem could also be resolved by using the existing city sewers on First Street and Trumbull Street, all of which are large enough to handle the flow. If this second alternative were used the 4' x 6' brick sewer on Trumbull Street would still have to be intercepted, as this sewer is not intercepted east of Second Street. Likewise, the laterals on Clark Place, Inslee Place, Ripley Place which flow to the First Street sewer that connects with the Trumbull Street sewer at the intersection of First and Trumbull Streets are not intercepted. At the present time, our Industrial Waste Survey indicates that approximately 1,548,950 gpd discharge directly to the Arthur Kill.

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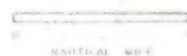


SINGER
MFG. CO.

ISLAND

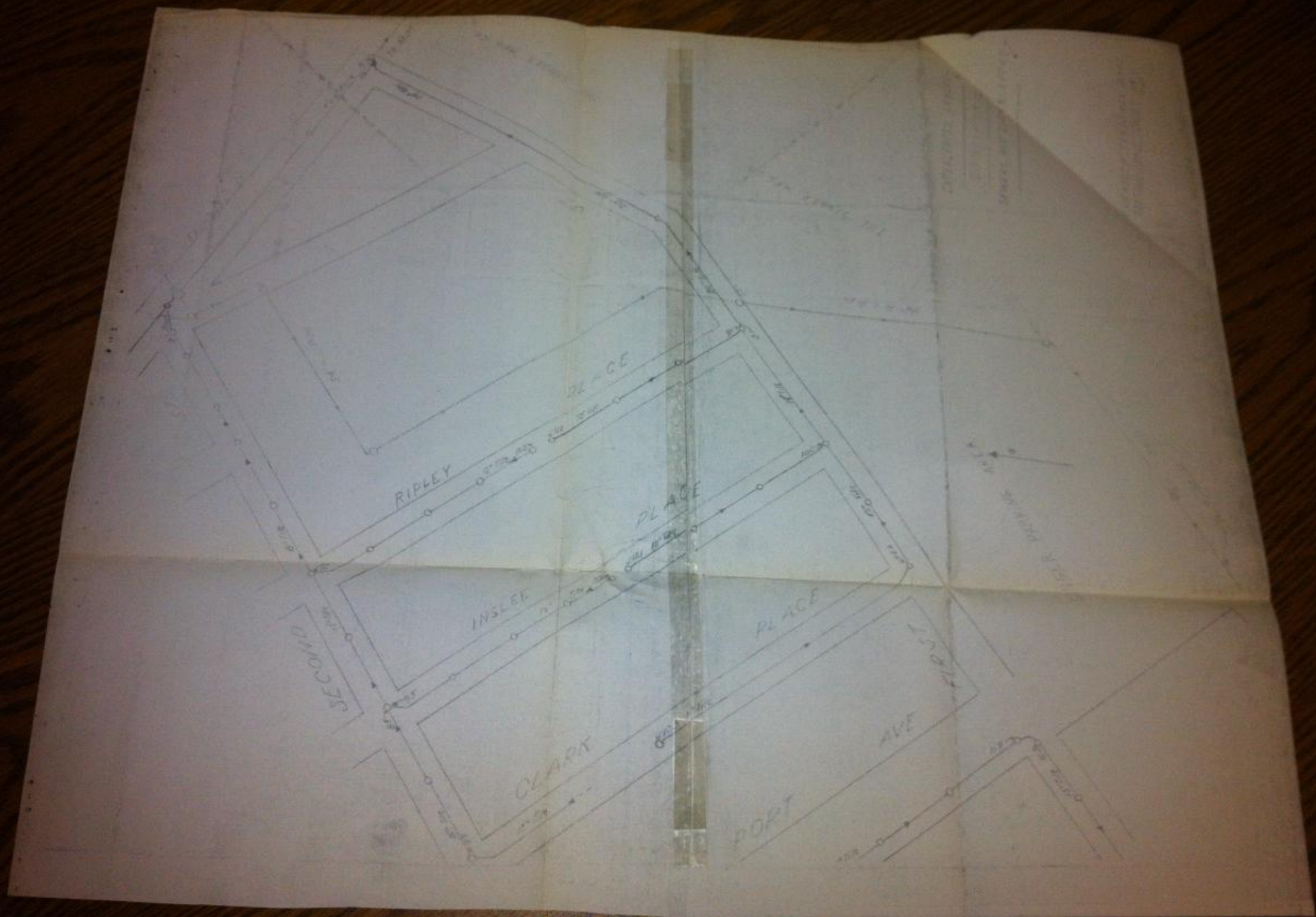
STATEN

ARTHUR KILL SURVEY SAMPLING STATIONS



INTERSTATE SANITATION COMMISSION
NEW YORK NEW JERSEY CONNECTICUT
1957

Arthur Kill Survey Stations of N. Y. State Map
Q-1 for water investigation



CONCLUSION:

After carefully reviewing the City of Elizabeth's sewer maps and verifying the sizes of the laterals and sewer mains with their present flows, it is reasonable to expect that this added flow would not over tax the present system. With the additional new sewer construction and interceptor which is being planned by the City of Elizabeth to eliminate the pollution from the Bayway Avenue section of Elizabeth, all direct discharges to the Arthur Kill in this area could be abated. All of this additional industrial waste would be diverted to the main pumping station which is operated by the City of Elizabeth. This station which is located on Atlantic Street, Elizabeth, New Jersey has a designed capacity of approximately 85.0 MGD. The past year's daily average flow which was pumped at this station was 14.86 MGD (June 1963 through May 1964). The Elizabeth Joint Meeting Treatment Plant has a designed capacity of 100.0 MGD with a yearly daily average for 1964 of 54.4 MGD. The Linden-Roselle Treatment Plant is designed for 12.5 MGD and this plant had a yearly daily average of 10.2 MGD.

MIDDLESEX COUNTY

- | | |
|--|--------------|
| 1. Agrico Chemical Company | Carteret |
| 2. American Smelting & Refining Company, Perth Amboy | |
| 3. Armour Fertilizer Company | Carteret |
| 4. California Oil Company | Perth Amboy |
| 5. Foster Wheeler Company | Carteret |
| 6. General American Tank & Storage Co., | Carteret |
| 7. Hess Oil Company | Perth Amboy |
| 8. Hess Oil Company | Port Reading |
| 9. Koppers Chemical Company | Port Reading |
| 10. Koppers Co. Creosoting Plant, | Port Reading |
| 11. Metal & Thermit Corp. | Carteret |
| 12. United States Metals & Refining Co., | Carteret |
| 13. Westvaco Co. Food Machinery | Carteret |

PLANT: American Agricultural Chemical Co.

LOCATION: End of Liebig Lane, Carteret, N.J.

This plant which is situated on the Arthur Kill and with its front property line approximately 500 feet east of Roosevelt Avenue and only 60 feet to the east of the Carteret interceptor could discharge its waste to either of the above mentioned sewer lines. The sizes of these lines could not be determined at the Borough Engineer's Office and due to the elevation of both lines, they could not be measured in the field. However from observing the flow through manholes, it can be estimated that the Roosevelt Avenue sewer is at least an 8" sewer flowing approximately one quarter full. The interceptor is estimated at approximately 24" and flowing less than one half full. Our Industrial Waste Survey indicates that this plant utilizes a combined (City and salt water) water consumption of 1,208,040 gpd of which an estimated 50,000 gpd discharges directly to the Arthur Kill.



PLANT: American Smelting & Refining Company

LOCATION: East Side of State Street, Barber Section,
Perth Amboy, N.J.

This plant which is situated on the Arthur Kill and bound on the north by California Oil Company and on the south by National Lead Company, has the alternative of discharging its waste material to the 48" interceptor sewer or a 12" sewer which connects with the 48" interceptor at the intersection of State Street and Garretsen Avenue. This plant fronts on State Street. No information is available as to the volume and nature of their discharge to the Arthur Kill.



ARTHUR KILL SURVEY
SAMPLING STATIONS



INTERSTATE SANITATION COMMISSION
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1957

PLANT: Armour Fertilizer Company

LOCATION: Foot of Middlesex Avenue, Carteret, N.J.

 This plant which is located at the end of Middlesex Avenue, Carteret, N.J. is adjacent to the Arthur Kill and is bordered on the north and south by U.S. Metals. This entire area is not sewered. A 12" sewer which is located approximately 100 feet south of Chrome Avenue, is the nearest City sewer. From this point to the front of Armour's property it is approximately 1600 feet. This 12" sewer flows north where it connects with the 12" force main coming from the Edwin Street pumping station. From observations made through manholes on these lines it is estimated that the 12" gravity sewer is flowing approximately 1" full and the 12" force main when in operation flows approximately one quarter full. No flow records are available at this time regarding the volume of discharge emanating from Armour & Company.



ARMOUR
FERTILIZER CO.

ISLAND

STATEN

GREAT KILL HARBOR CHANNEL
Depth of 15 feet was available for
width of 120 feet May 1956

ARTHUR KILL SURVEY
SAMPLING STATIONS

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INTERSTATE SANITATION COMMISSION
NEW YORK NEW JERSEY CONNECTICUT
1957

LT. WILKINS & SONS

UNION

30-5-55

PASADENA

JESSIE

5 ST.

CHROME

AVE

1" BLACK MAIN
200' OF P.S.

HIDLESEX

METAL & THERMIT CORP.

METAL & THERMIT CORP.

U.S. METALS REFINING CORP.

METALS REFINING CO.

ARMOUR FERTILIZER CO.

U.S. METALS REFINING CO.

AREA ADJACENT TO
ARMOUR FERTILIZER CO.
BOROUGH CARTERET
5-6-69

STREET MAP

INTERIOR

PLANT - California Oil Company

LOCATION: State Street, Perth Amboy, N.J.

The California Oil Company has its installation divided by State Street, Perth Amboy, N.J. On the east side of State Street this portion of the plant is located directly on the Arthur Kill and is bordered on the north by Hess Oil Company, and on the south by the American Smelting & Refining Company. Their property, which is located on the west side of State Street, is bordered on the north by Woodbridge Creek and on the south by Tyrells Lane. Starting at Tyrells Lane and flowing in a southerly direction, a 12" city sewer is located on State Street. This sewer flows to the intersection of State Street and Garretsen Avenue where it discharges to the 48" interceptor which terminates at the State Street pumping station. Our records indicate that the East Yard Tank Farm Separator discharges to the Arthur Kill. This separator has a capacity of 2000 gpm. API Separators #1 and #2 and the settling basin (lagoon) discharge their effluent to Woodbridge Creek. All sanitary waste from this plant is discharged to the 12" sewer on State Street.

1/8/65

FG:k



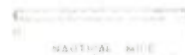
California Oil Co.
Petroleum, N.J.

ISLAND

STATEN

STATEN ISLAND
Scale of 10 feet per inch for
water 10 feet May 1954

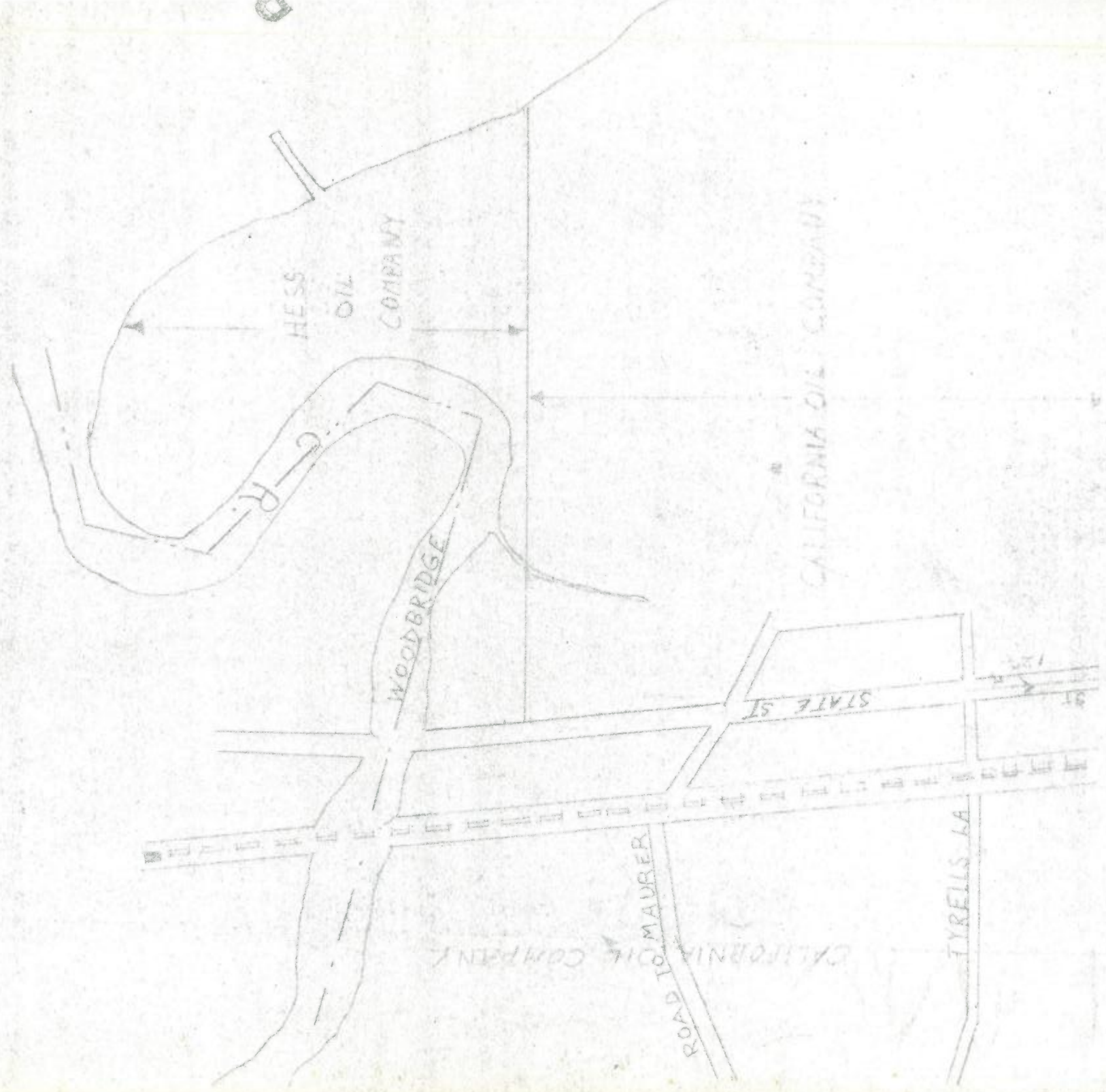
ARTHUR KILL SURVEY SAMPLING STATIONS



INTERSTATE SANITATION COMMISSION
NEW YORK NEW JERSEY CONNECTICUT

1957

Reproduced with permission of U.S. Coast and Geodetic Survey
Not for navigation



HESS
OIL
COMPANY

CALIFORNIA OIL COMPANY

WOODBRIDGE


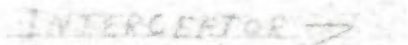
STATE ST

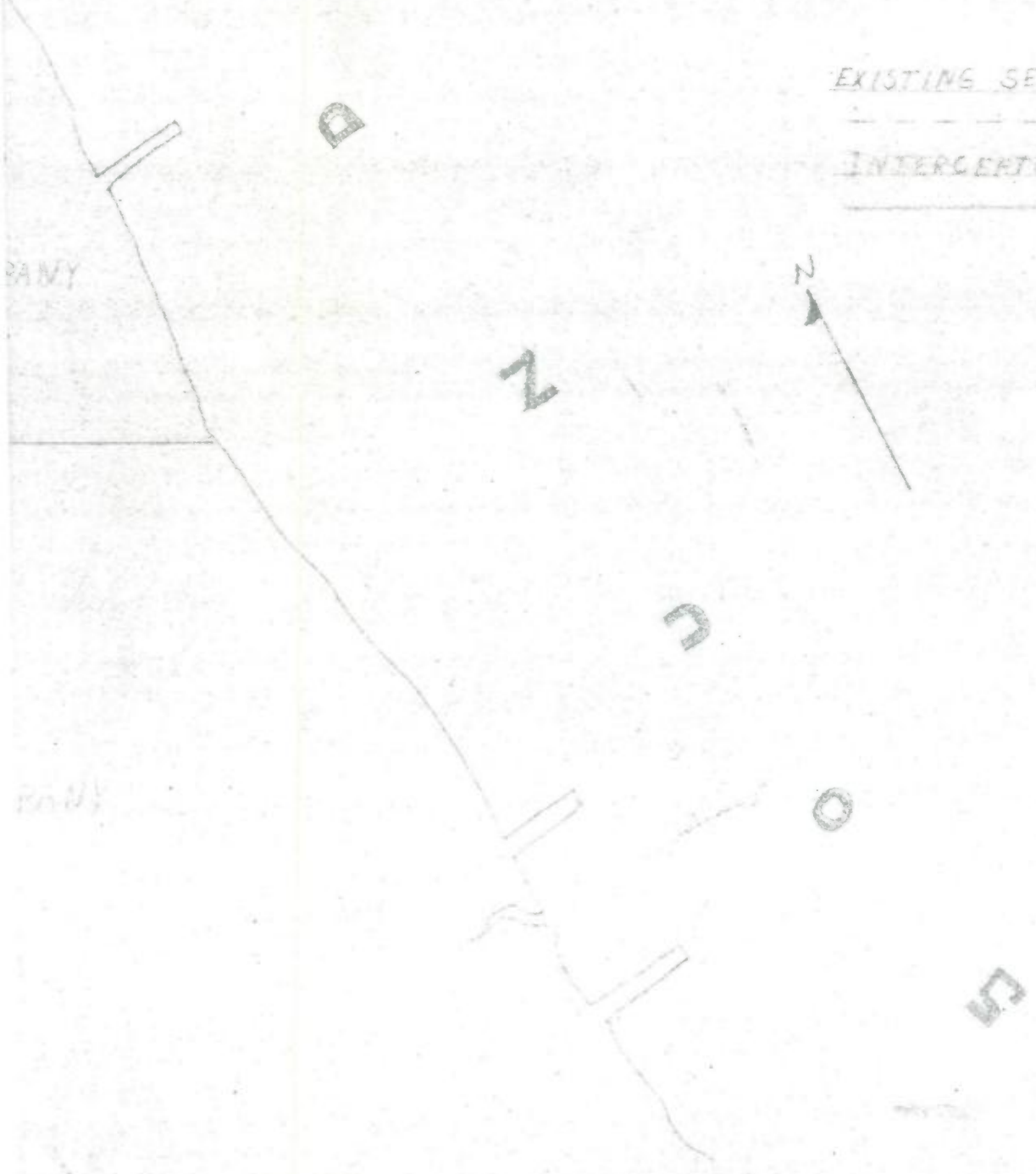
ROAD TO MAURER

TYRELLS LA

CALIFORNIA OIL COMPANY

GENERAL MAP
SEWERS & INTERCEPTOR
CITY OF PERTH AMBOY

EXISTING SEWERS 
INTERCEPTOR 



PLANT: Foster Wheeler Company

LOCATION: Roosevelt Avenue, Carteret, N.J.

This plant is divided by Roosevelt Avenue. All buildings situated on the east side of the street are adjacent to the Arthur Kill.

A City sewer flows south on Roosevelt Avenue past all units of this plant. From observations made through a manhole at street level it is estimated that the size of the sewer is 16" and it was flowing less than one quarter full. This sewer terminates at the Carteret Sewage Disposal Plant.



FOSTER
WHEELER CO.

STATEN
ISLAND

STATEN
ISLAND

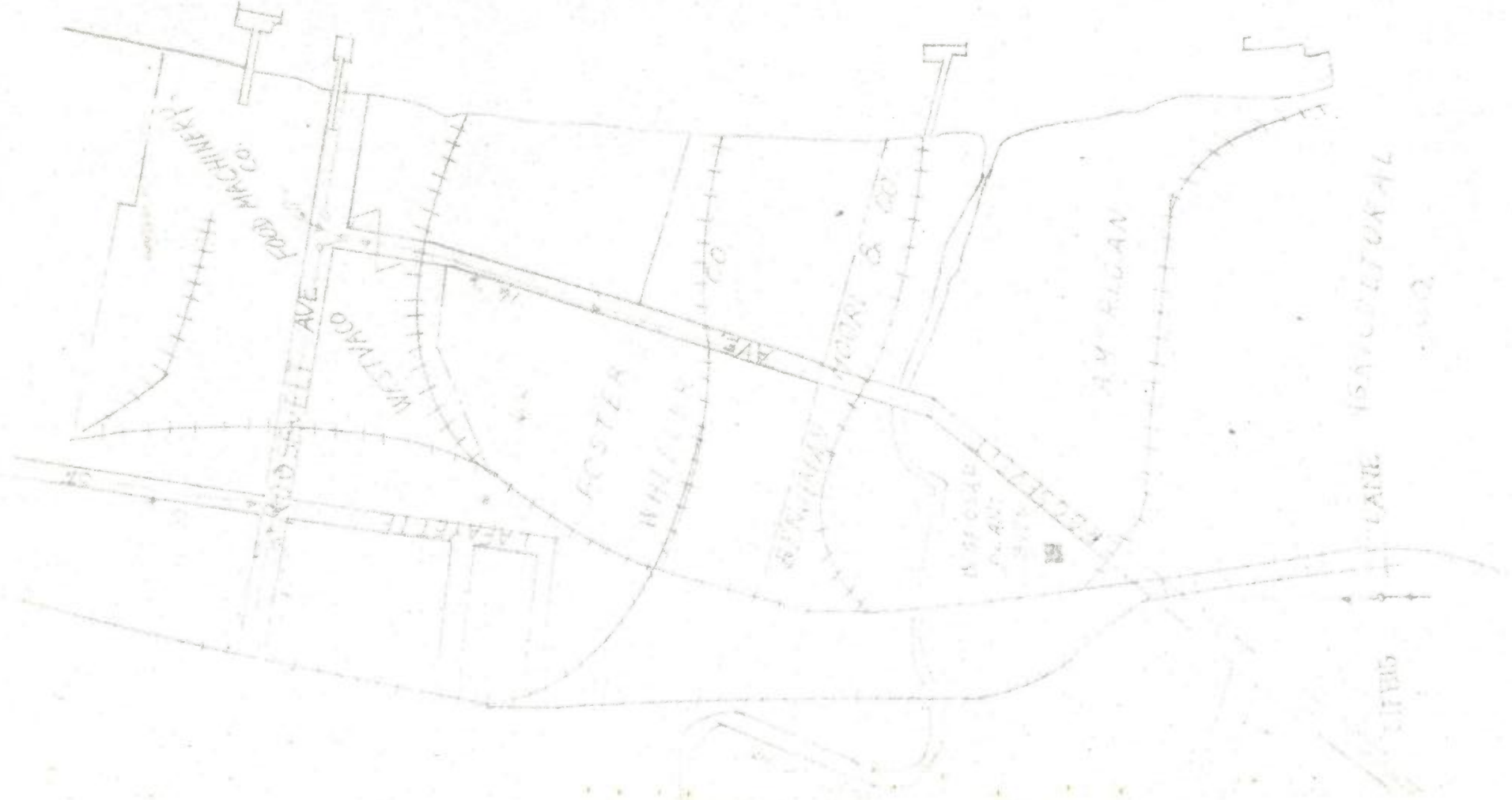
GREAT KILL RAPIDS Channel
Depth 15.10 feet was available for
width of 120 feet May 1958

ARTHUR KILL SURVEY SAMPLING STATIONS



INTERSTATE SANITATION COMMISSION
NEW YORK NEW JERSEY CONNECTICUT
1957

Indicated expansion of U.S. F.D.S. Map
Not to scale in map



AREA ADJACENT TO
FOSTER WHEELER
BOROUGH CARTERET
8-3-64

STREET 7900 7
INTERCEPTOR 7

111155

3002

PLANT: General American Tank & Storage Company

LOCATION: End of Lafayette Street, Carteret, N.J.

The General American Tank & Storage Company installations are located on the east side of Lafayette Street and adjacent to the Arthur Kill. This area has no available City sewers. The nearest City sewer line is approximately 1500 feet to the south. At this point a 6" line serving approximately three homes flows in a southerly direction to a 12" main sewer line on Roosevelt Avenue. From observations made through manholes at street level all sizes and flows are estimated. The flow in the 12" main was approximately one quarter full.



AREA ADJACENT TO
EX. AMERICAN
S. 3. 24. 268
OLD CASTERET
S. 3. 48

DEET MANS

GENERAL
AMERICAN

TANK & STORAGE

CO. INC.

FOOD MACHINERY
CO.

500 E. 11th Ave

WITVAC

ARTHUR KILL

OLD 11th Ave

PLANT: Hess Oil Company

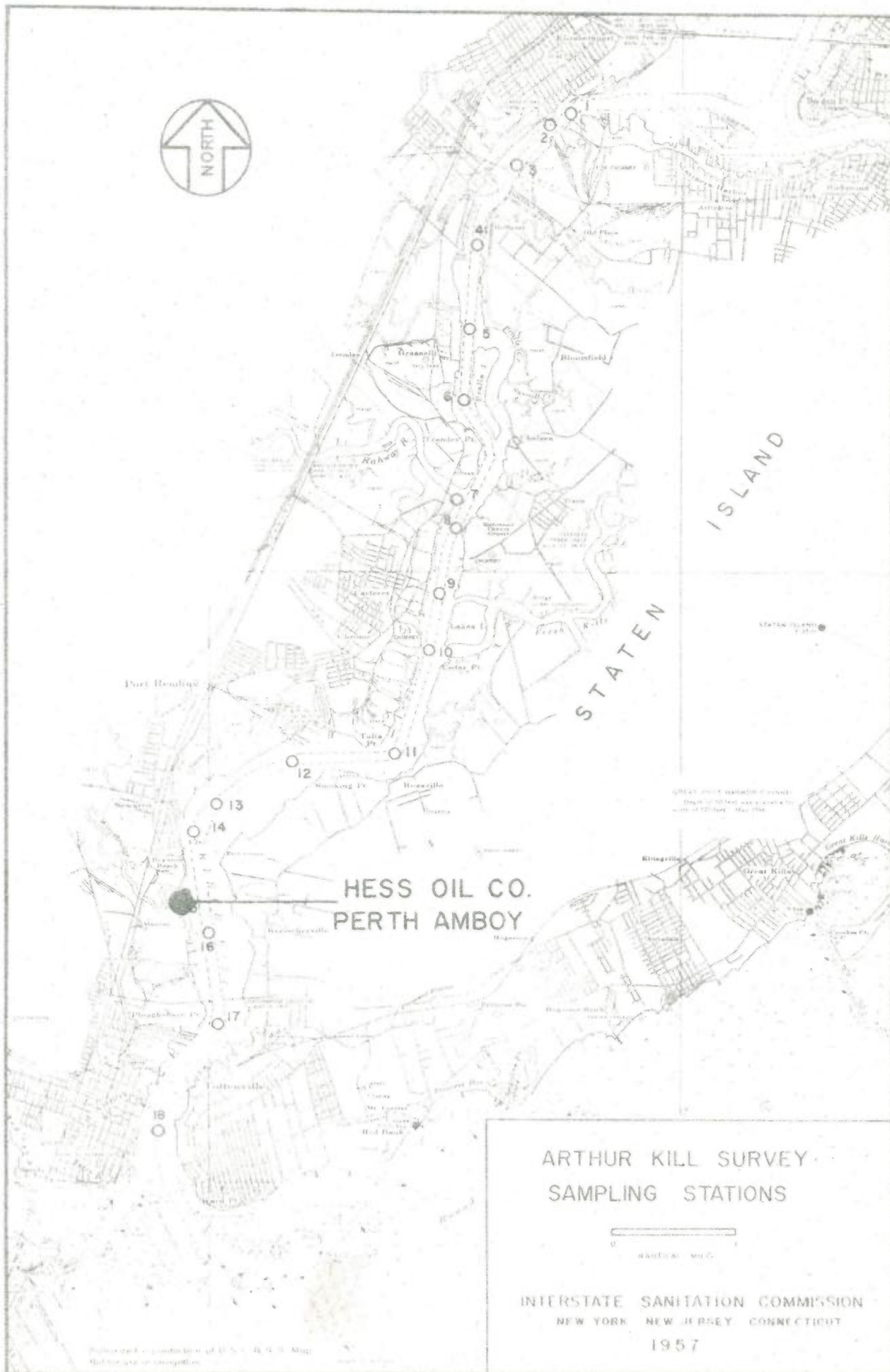
LOCATION: State Street, Perth Amboy, N.J.

This plant, which is located at the extreme northerly end of the City of Perth Amboy is situated on the east side of State Street and is bordered by the Arthur Kill and Woodbridge Creek.

The nearest city sewer to this unit is approximately 1600 feet. This 12" sewer starts at Tyrell's Lane and State Street and flows in a southerly direction to the intersection of State Street and Garretsen Avenue where it is connected to the 48" interceptor which discharges its sewage at the State Street pumping station.

1/8/65

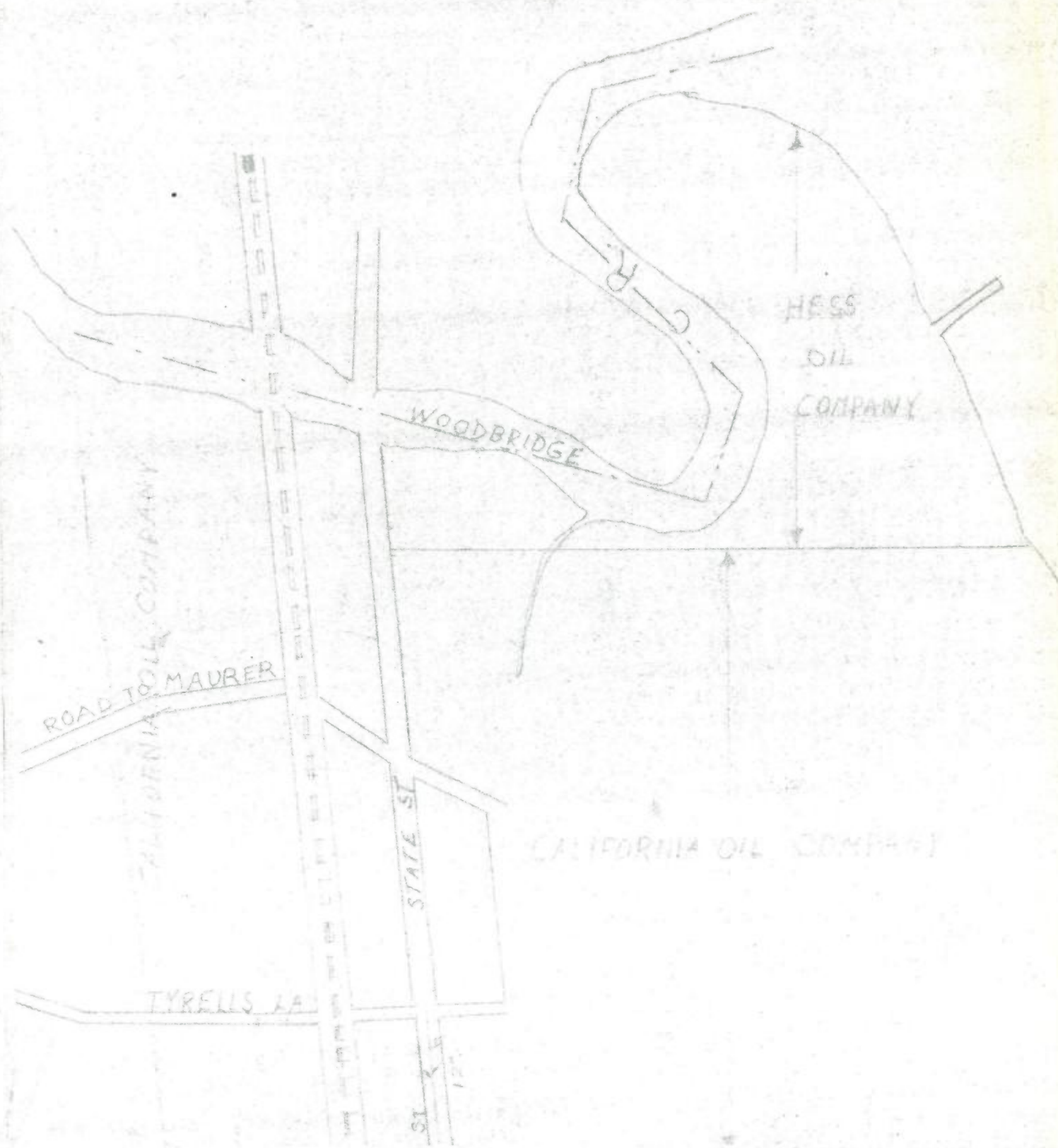
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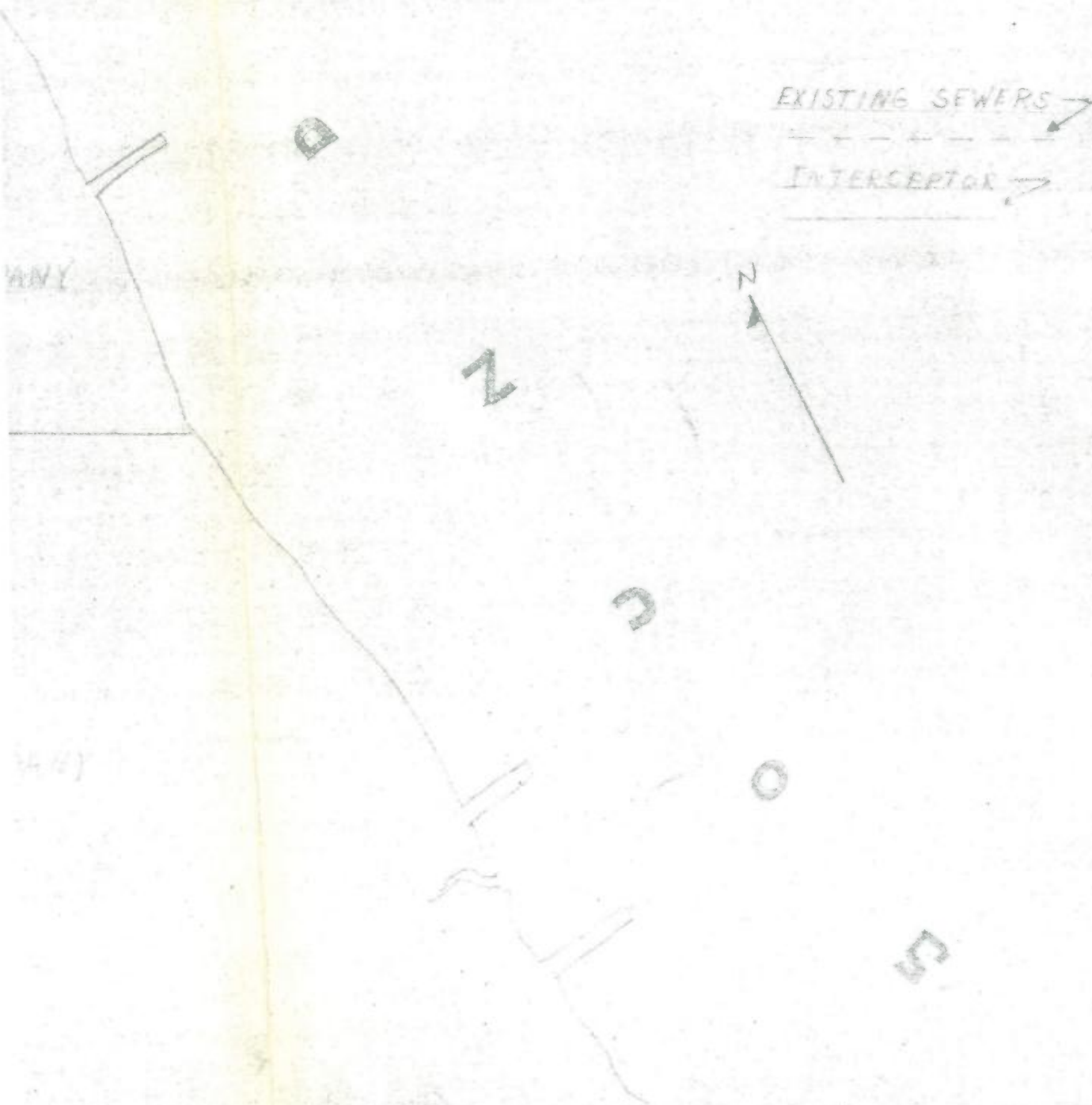
ARTHUR KILL SURVEY
SAMPLING STATIONS



INTERSTATE SANITATION COMMISSION
NEW YORK NEW JERSEY CONNECTICUT
1957



GENERAL MAP
SEWERS & INTERCEPTOR
CITY OF PERTH AMBOY



PLANT: Hess Oil Company

LOCATION: Cliff Road, Port Reading, N.J.

The Hess Oil Company refinery is located on the east side of Cliff Road, Port Reading. This unit is bordered on the north by the Reading Railroad Coal Dock Yards and on the south by the Sewaren Generating Station. Located on Cliff Road an 18" intercepting sewer flows in a southerly direction to the Woodbridge Treatment Plant. From observations made through a manhole at street level, it is estimated that this line was flowing less than one quarter full. Our Industrial Waste Survey indicates that 1400 gpm is discharged from this refinery.

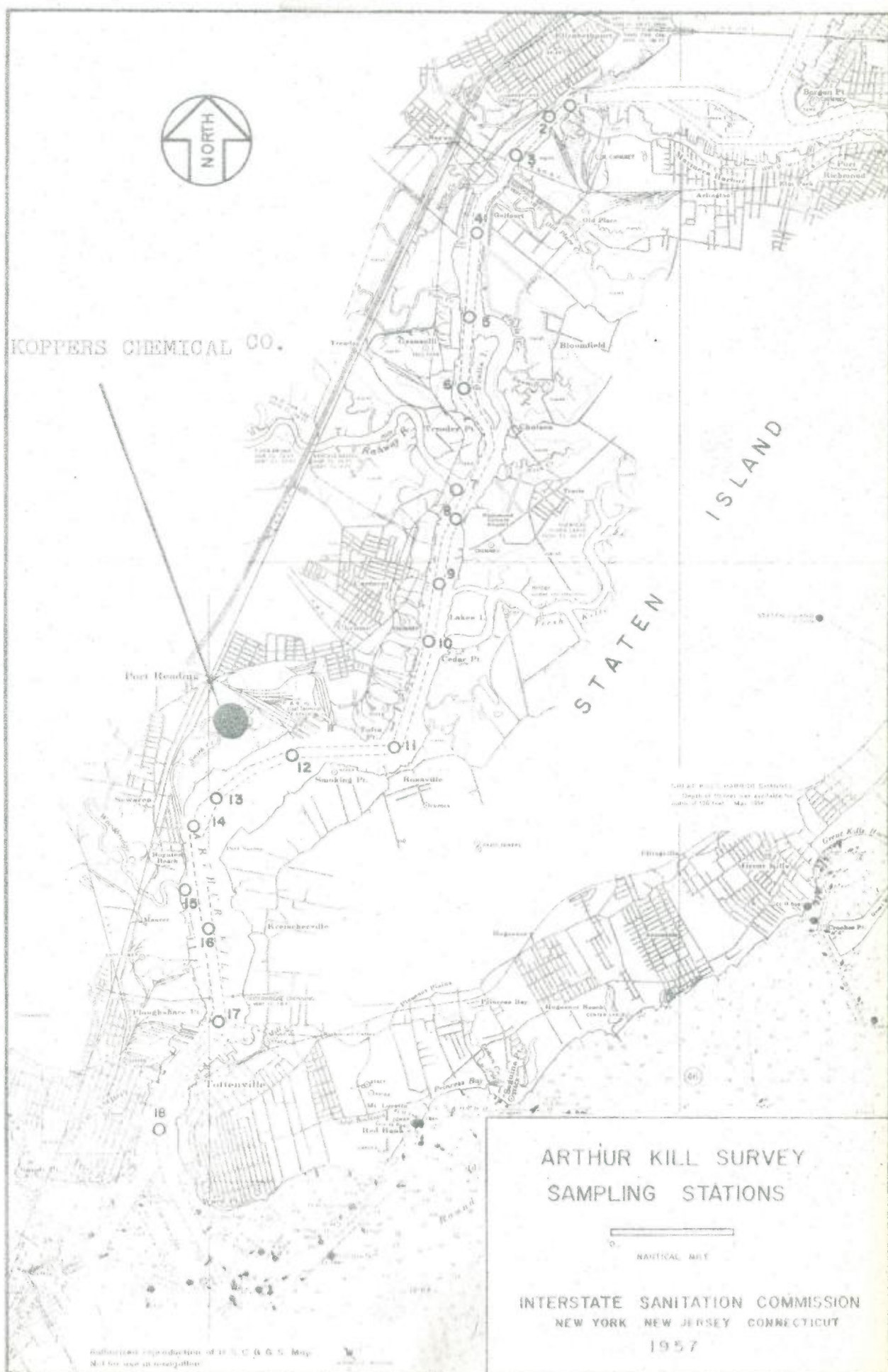


PLANT: Koppers Chemical & Plastics Division -
Koppers Wood Preserving Division

LOCATION: Carteret Road, Port Reading, N.J.
End of Edwin St., Carteret, N.J.

The Koppers Chemical and Plastics Division Plant is located between the Arthur Kill and Carteret Road. This section of Carteret Road which extends between the Borough of Carteret and Vernor Way is not sewered. However on all streets which run perpendicular to Carteret Road they have sewer lines. In this area the average size of the sewers is 12", all of which discharge to the 18" interceptor which starts at Carteret Road and Turner Street. From observations made through manholes at street level all lines appeared to be large enough to service the 530,000 gpd flow from this unit.

The Koppers Wood Preserving Division Plant is located at the foot of Edwin Street. Edwin Street is a city street owned by the Borough of Carteret but the plant mentioned is located in the Port Reading section of the Woodbridge Township. There are no city sewers available in this area, the nearest one being located in the Borough of Carteret at the intersection of Edwin Street and Bergen Street which is approximately 1200 feet away. At this point the Edwin Street pump station is located. All sewage entering this station is pumped to the Carteret Sewage Disposal Plant. This wood creosoting unit uses approximately 230,000 gallons of fresh water per year.





KOPPERS CO.
(WOOD PRESERV. DIV.)

ISLAND

STATEN



ARTHUR KILL SURVEY SAMPLING STATIONS



INTERSTATE SANITATION COMMISSION
NEW YORK NEW JERSEY CONNECTICUT
1957

BORO CAR

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Hagawonk

Vernon Way

CARTER ST

Turner St

Maple St

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PORT

KOPPER

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PORT READING RR

PORT COAL

PORT READING
Section of

WOODBIDGE TOWNSHIP
7-64

BORO CARTERET

EDWIN ST - CARTERET

KOPPERS - PLASTICS

Koppers Wood
Preserving Div.

KOPPERS CHEMICAL

E A D I N G

O R T

PORT
COAL

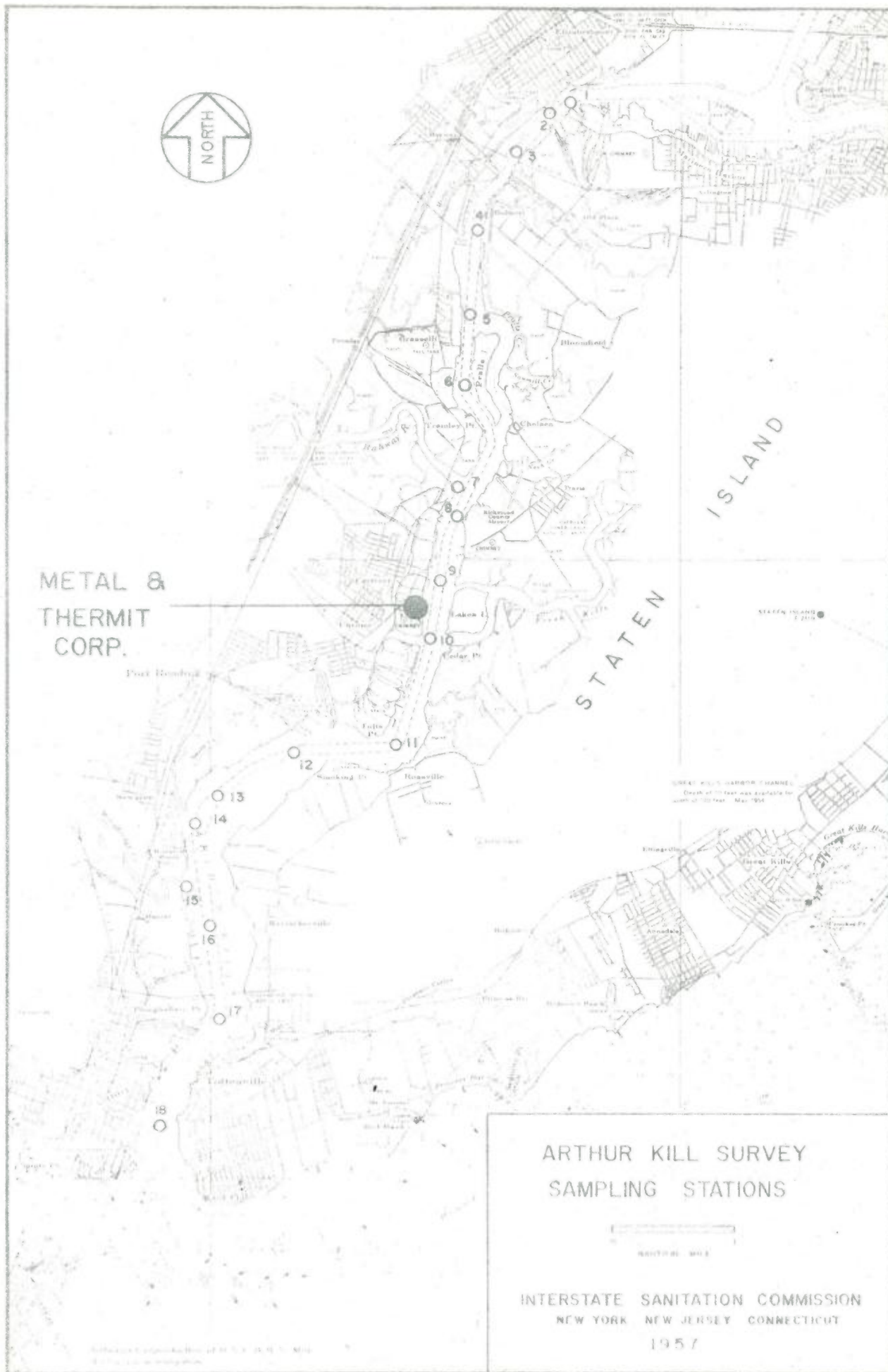


PLANT: Metal & Thermit Corporation
LOCATION: Foot of Union Street, Carteret, N.J.

The Metal and Thermit Corporation is located between the Arthur Kill and the intersection of Middlesex Avenue and Union Street. Located directly in front of the main entrance to this plant and on the west side of the Central Railway of New Jersey tracks is the main interceptor which flows to the Carteret Treatment Plant. From observation through several manholes in this area a sewer line of undetermined size was seen discharging some waste from this plant.



METAL &
THERMIT
CORP.



ICHABOD
FORCE MAIN TO T.P.

WILLIAMS & SONS

I.T. WILLIAMS & SON

METAL & THERMIT CORP.

METAL & THERMIT CORP.

U.S. METALS REFINING CORP.

From EDWIN LE-
PUMP STATION
12" Force M.
12"

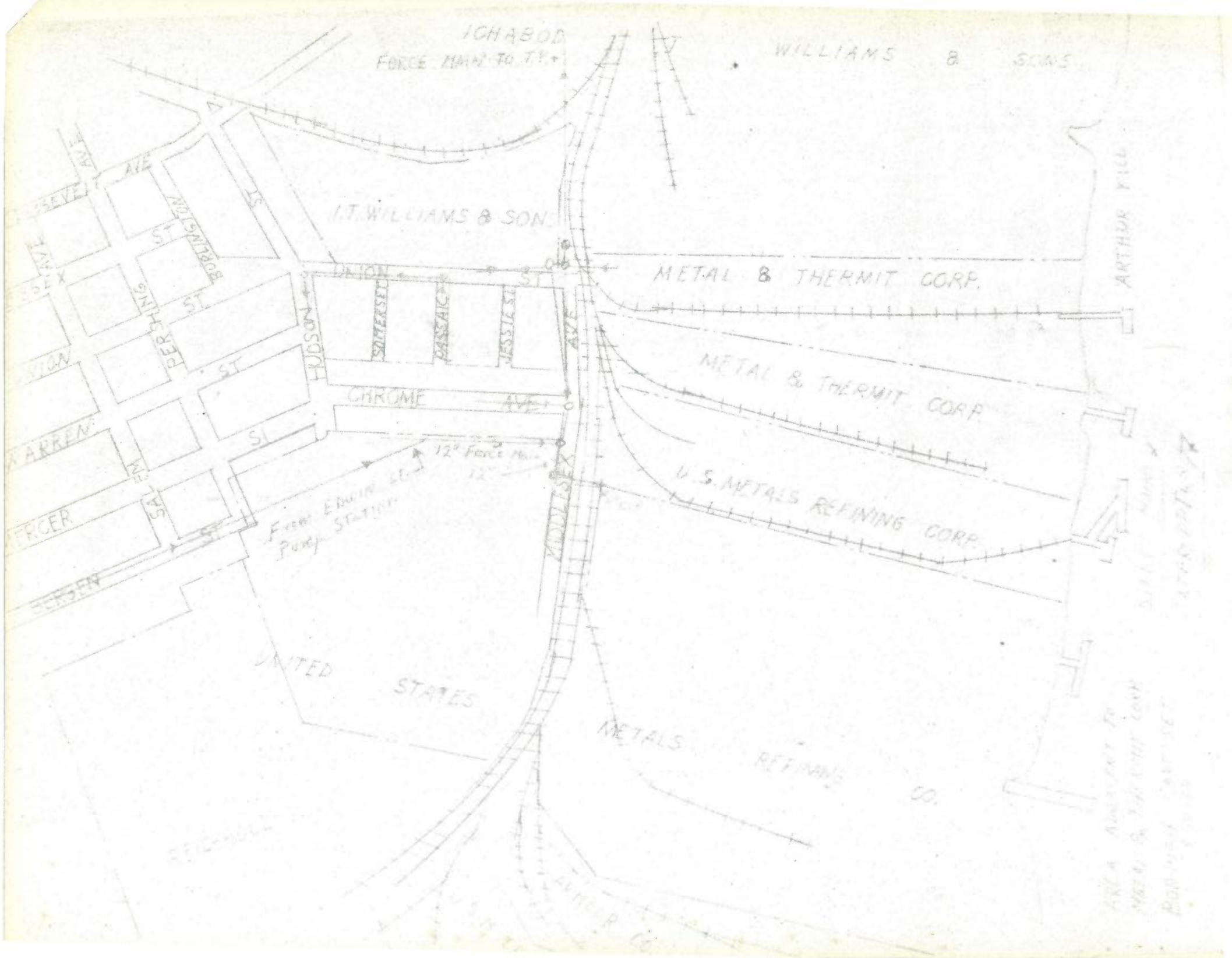
UNITED STATES

METALS REFINING CO.

AREA ADJACENT TO
MAIN & TYPING LOAN
BANKING OFFICE

ARTHUR KILL

ARTHUR KILL



PLANT: United States Metals Refining Co.

LOCATION: Middlesex Avenue, Carteret, N.J.

This metal refining plant is located between the Arthur Kill and Middlesex Avenue. Bordering the plant on the north is Metal & Thermit Corporation and on the south is the Armour Fertilizer Company. At the northern portion of their property a 6" private sewer was observed entering into a 12" city sewer. This 12" city sewer empties into the force main which is located approximately 200 feet to the north of this connection between the 6" and 12" sewer. This 6" private sewer seemed to originate from the U.S. Metals property. The flow during the time of inspection was very slight. From observations made through the manholes at street level it is estimated that the 12" line was flowing approximately 1" full. Our Industrial Waste Survey indicates that the approximate discharge from this refining unit is 36.0 mgd.

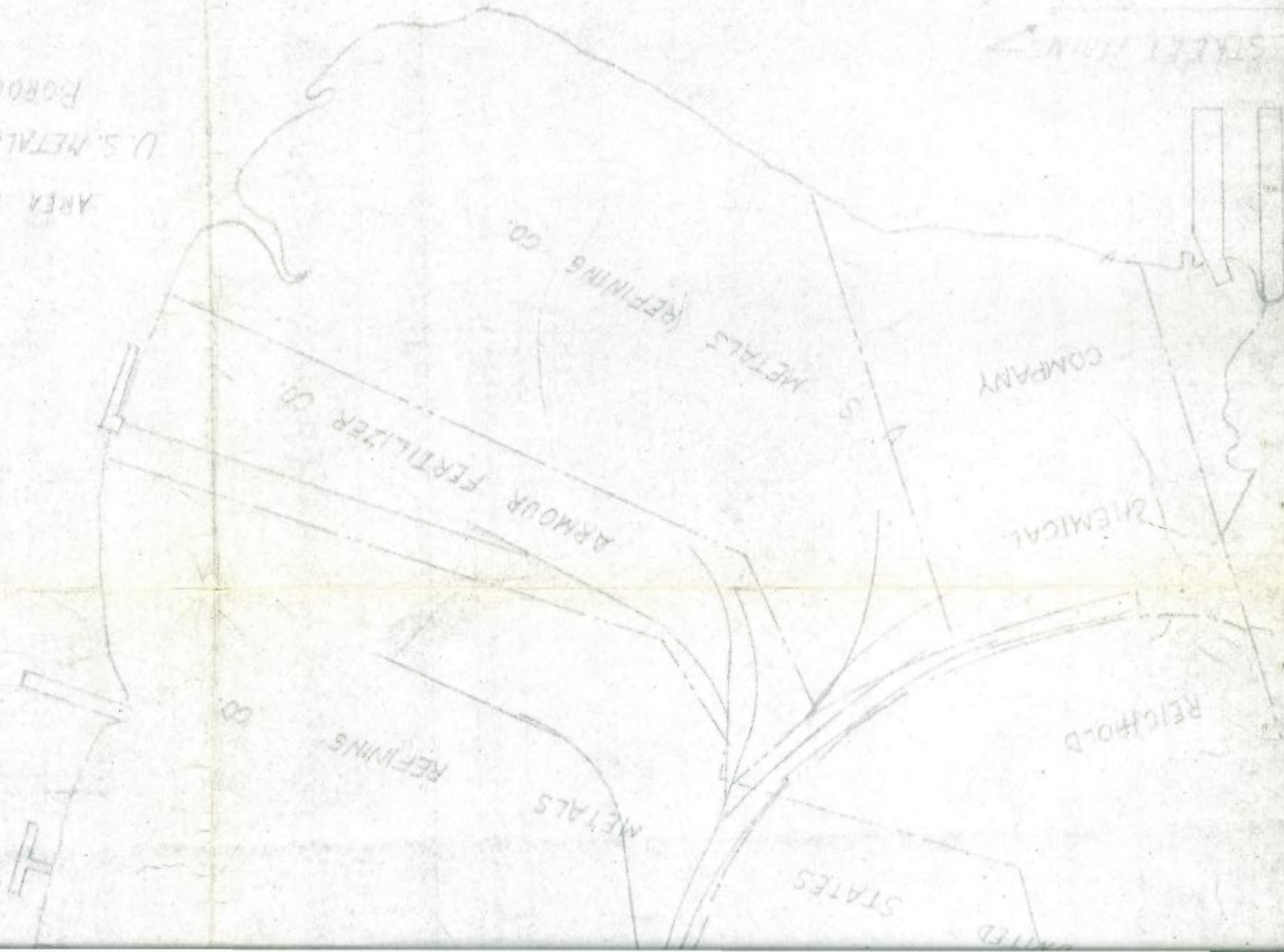


U.S. METALS
REFINING CO.





AREA ADJACENT TO
U.S. METALS REFINING CO.
BOROUGH CARTERS



PLANT: Westvaco - Food Machinery Corp.

LOCATION: Roosevelt Avenue, Carteret, N.J.

This plant is located on the north side of Roosevelt Avenue and also has buildings located between the west side of Roosevelt Avenue and the east side of Lafayette Street. All units which are located to the north of Roosevelt Avenue border on the Arthur Kill. City sewers are located on all streets which border this plant. From observations made through manholes at street level it was estimated the sizes of sewers and their approximate flow. The 12" and 16" sewers on Roosevelt Avenue were estimated to be flowing approximately one quarter full. The 8" sewer on Lafayette Street which starts at the south side of Roosevelt Avenue and flows southerly to Randolph Street had very little flow in it during the time of inspection. At the bend in Roosevelt Avenue an 8" stub with no flow was observed coming from the units located to the north of this Avenue. Our Industrial Waste Report indicates that all units north of Roosevelt Avenue discharge approximately 2560 gpm and the units located between Roosevelt Avenue and Lafayette Street discharge approximately 110 gpm. All discharges go directly to the Arthur Kill.



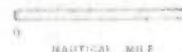
Food Machinery Corp.
Carteret, N.J.

ISLAND

STATEN

GREAT KILL HARBOR CHANNEL
Depth at 30 feet was available for
width of 120 feet - May 1954

ARTHUR KILL SURVEY SAMPLING STATIONS



INTERSTATE SANITATION COMMISSION
NEW YORK NEW JERSEY CONNECTICUT
1957

ARTHUR KILL

Map of 1840

BOROUGH CARTERET

Are Adjacent

WESTVAC - FOOD MACH. REPR

67-6-83

CONCLUSION

After carefully reviewing the city sewer maps and from on the site observations in the following communities: Carteret, Perth Amboy and Port Reading in the Woodbridge Township, it is reasonable to assume that of the 13 industrial plants in question 8 of them could divert their waste discharges to the city sewer system.

The following plants located in the Borough of Carteret have city sewers which are adequate in size and within reasonable distance to their respective plants:

1. Agrico Chemical Company
2. Foster Wheeler Company
3. Metal & Thermit Corporation
4. Westvaco Company

However, it should be kept in mind that the designed flow of the Carteret Sewage Disposal Plant is 3.0 MGD. The average daily flow for the past year at this plant was reported as 2.9 MGD. While U. S. Metals already has a 6" sewer line connected to the 12" city sewer, their reported average discharge of 36.0 MGD would need further study. The problem arising with Armour Fertilizer Company and General American Tank & Storage Company is that they are situated over 1200 feet from the nearest city sewer.

In the Port Reading section of Woodbridge Township Hess Oil Company and Koppers Chemical Company would connect to the local sewer system. Their respective flows would be diverted to the Woodbridge Sewage Disposal Plant via the 18" gravity line which at the present time has sufficient capacity for this additional flow. The Woodbridge Treatment

Plant has a designed flow for 10.0 MGD and the daily average flow as reported for this plant was only 3.4 MGD. The only industrial plant in this area which would encounter some problems is the Creosoting Plant of Koppers Company.

In the Perth Amboy area, the following industrial plants could be served by the city sewer system: American Smelting & Refining Company and California Oil Company. The city sewer system and pumping stations have adequate capacity for this additional flow. The Perth Amboy Sewage Disposal Plant has a designed capacity of 10.0 MGD and last year their average daily flow was reported at 5.4 MGD. In this area some difficulties would be encountered at the Hess Oil Company due to the distance involved between their plant and the nearest city sewer.

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